

PROJECT TITLE : CIGARETTE DEVELOPMENT - TECHNICAL REPORT
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SWITZERLAND

374 MONTANA

Objective

To develop an ultra low tar cigarette with the following characteristics :

TAR : 0.1 mg/cig.
SN : 0.01 mg/cig.
CO : 1.0 mg/cig.
NO : 0.01 mg/cig.
Puff count : > 6
Format : 7.95 / 25 / 79.4
Taste direction : Air-cured

Summary

(Please see monthly report of October-November 1980).

The aim of the preliminary study, the results of which have been discussed with the Swiss Marketing Department, was firstly to confirm our theoretical concept, without however extracting a final product.

Only prototype No 4 P appears to be worthy of further development due to the following reasons :

- The air-cured direction was definitively accepted.
- The ratio SN/TAR of this prototype is the closest to the goal ratio 0.1.
- The puff count corresponds to the objective.
- The use of a high porosity cigarette paper for such a highly diluted cigarette does not appear justified.

Description of samples and results

Three prototypes, Nos 6 P, 7 P and 8 P, with the same specifications of prototype 4 P, except for the tipping paper, were produced.

Prototype No	4 P	6 P	7 P	8 P
Tipping paper macro-laser perforated	3xM.3.0.0.0	4xM.2.0.1.1	5xM.2.0.1.1	4xM.3.0.0.0

Prototype 6 P : The analytical figures are not within the objective.

Prototypes 7 P and 8 P : The analytical figures are within the objective. Moreover, only prototype 8 P was submitted to the Swiss Marketing Department because of the cheaper tipping paper used and also because some technical problems may be encountered during the gluing of 5-row of macro-laser perforated tipping paper with the standard skip-tip glue applicator.

Prototype No	4 P	8 P
Blend	FLL -----	
Cigarette paper	WP 60 -----	
Tipping paper	3 x M. 3.0.0.0	4 x M. 3.0.0.0
Filter	2.1 Y / 48'000 -----	
Dilution (%)	85	90
Total RTD (mm WG)	79	69
Filter RTD (mm WG)	133	135
TAR	0.2	0.06
SN	0.04	0.01*
CO	0.5	0.3
NO	0.01	0.05
Puff count	6.7	7.0

* : Outside the threshold detection of our methods.

It must be pointed out that this cigarette, which fulfils the objective, is, at the same time, easy to light and draw. Moreover, even an insensitive smoker will detect a slight air-cured taste.

Follow-up

A mentholated version of prototype 8 P will be produced.

399 TEXASObjective

To develop an ultra low tar cigarette of the air-cured type with the following characteristics :

TAR : 3.0 mg/cig.
 SN : 0.3 mg/cig.
 CO \leq 5.0 mg/cig.
 NO \leq 0.1 mg/cig.
 Puff count : 7
 Format : 7.95 / 25 / 79.4

Summary

The expert panel A found the special spicy tobacco taste of prototype 8 P interesting, whereas Marketing Department did not. Therefore, to clarify the situation, it was suggested to lay down a new tobacco blend and to add humectants in this and in existing FLL blends.

Description of samples and results

(Please see monthly reports of October-November and November-December 1980).

Two prototypes with the specifications of the prototype 8 P were produced using two different blends. The humectants (propylene glycole 1 %, glycerin 1 %) were added to.

Prototype No	10 P	12 P
Blend	FLL	CH 1239901N02
Cigarette paper	BDP 30	-----
Tipping paper	6 x M. 0.3.3.5	-----
Filter : Plug 1	5.0 I / 46'000	-----
Plug 2	5.0 X / 40'000	(with N.A. charcoal)
Plug 3	2.5 Y / 48'000	
Tobacco weight mg/cig.	530	527
Filter RTD mm WG	78	77
Total RTD mm WG	67	67
Dilution %	62	63
TAR mg/cig.	3.1	2.9
SN mg/cig.	0.31	0.25
CO mg/cig.	4.1	3.8
NO mg/cig.	0.06	0.06
Puff count	7.0	7.0

Both prototypes are within the objective.
As regards the organoleptic qualities, two prototypes show a considerable improvement when compared with prototype 8 P and have been accepted by Marketing Department for the foreseen product test.

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